

# Arboviral Surveillance and Response Capacity Survey 2021

## Section I: Respondent details

### 1. Country

Turkey

### 2. Respondent/person to be contacted for clarification, if needed (last name, first name, e-mail address)

### 3. Professional title and affiliation

### 4. Date (dd/mm/yyyy)

31/5/2021

## Section II: Arboviral disease surveillance system

### 5. Which arboviruses have circulated in your country at any time since the year 2000? This refers only to arboviruses with autochthonous i.e., local mosquito-borne transmission.

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Chikungunya	Not selected
Dengue	Not selected
Yellow fever	Not selected
Zika	Not selected
Other	West Nile Virus

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### 6. Do you have any written arbovirus surveillance and control plan(s) and/or guideline(s) for your country?

Yes. We do not have arbovirus-specific guidelines, but arboviruses are included within general surveillance guidelines.

**6b. For which of the following arboviruses do you have written surveillance and control plans for your country? Please choose all that apply.**

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Chikungunya	Yes
Dengue	Yes
Yellow fever	Yes
Zika	Yes
Other	West Nile Virus

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**6c. Please upload surveillance and control plan(s) or protocol(s), or guideline(s)**

4 file(s) submitted

**7. Is there a specific national programme for arboviral diseases surveillance or is it integrated in another programme? Please select the appropriate answer:**

Integrated in another programme

**7b. Please specify the programme into which arboviral diseases is integrated**

Action Plans for Zika Virus, Chikungunya Virus, Dengue Virus, Yellow Fever virus and West Nile Virus prepared within the Turkish Zoonotic Diseases Action Plan (2019-2023).

**8. For which level of the health structure are individual and aggregated data available? (Select all relevant levels)**

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	Individual level	Aggregated
Primary health care level	Yes	Not selected
District level	Yes	Not selected
Regional level	Yes	Not selected
National level	Yes	Not selected

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**9. What are the tools used for recording case data for surveillance purposes? Select all that apply**

National	Mixed methods
State/provincial	Mixed methods
District	Mixed methods

**10. Which training has been provided to the staff working on arboviral disease surveillance data?**

One-time basic training on data capture and analysis (MS Excel, MS Access, EpiInfo) and/or geographic information systems (GIS)	Yes
Repeated/continuing basic training on data capture, analysis, and/or GIS	Not selected
One-time advanced training on statistical software for data analysis (e.g. STATA, R, SAS, Tableau, etc)) and GIS	Not selected
Repeated/continuing training on advance statistical software for data analysis (eg STATA, R, SAS, etc) and GIS	Not selected
No training	Not selected

**11. Is reporting mandatory for any arboviral disease cases in your country?**

Yes

**11b. For which of the following arboviral disease cases is reporting mandatory in your country?**

Chikungunya	Mandatory reporting of confirmed cases only
Dengue	Mandatory reporting of confirmed cases only
Yellow fever	Mandatory reporting of confirmed cases only
Zika (non-congenital)	Mandatory reporting of confirmed cases only
Zika (congenital)	Mandatory reporting of confirmed cases only
Other	Mandatory reporting of confirmed cases only

**11c. For which other arboviral diseases is reporting mandatory?**

1	West Nile Virus	Confirmed cases
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**11d. Please upload document(s) containing surveillance case definitions used for reporting of arboviral diseases**

1 file(s) submitted

**12. In the last 2 years, did your country conduct national epidemiological surveillance for human cases of arboviral disease?**

Yes

**12b. How frequently are surveillance data reported to the national level?**

Ad hoc

**12c. What type of national epidemiological surveillance was conducted?**

Primarily passive

For reference, here are the relevant definitions:

**Active surveillance** is defined as having dedicated systems and staff that routinely and with effort survey for cases of disease or detection of vectors and associated pathogens by the public health department.

**Passive surveillance** is defined as having a reporting system where physicians, laboratories, mosquito control districts, academic institutions or others routinely report cases of disease or detection of vectors and associated pathogens to the public health department.

**12d. If available, please upload the most recent report(s) on arboviral surveillance in humans**

0 file(s) submitted

**13. Does your country provide regular training sessions for healthcare workers on notification of *Aedes*-borne arboviral diseases?**

No

**14. What do the arboviral disease surveillance staff perceive as factors contributing to the a) success and b) barriers/challenges to arboviral disease surveillance in humans?**

Arboviral diseases of concern are notifiable diseases in Turkey. There is no local transmission of these diseases except WNV, which is also not endemic. That's why there is a very strong surveillance for arboviral diseases as they are very uncommon. When one of these diseases is diagnosed, Zoonotic and Vector-borne Diseases Department is informed immediately. All the process is conducted under the supervision of the Department.

### Section III: Arbovirus laboratory capacity

15. Is arbovirus diagnostic laboratory testing performed for confirmation of suspected cases in your country? (Please select the applicable option during outbreak periods and during non-outbreak periods, respectively)

Outbreak periods	All suspect cases tested
Non-outbreak periods	All suspect cases tested

15b. On average, for what percentage of suspected arboviral disease cases your country is laboratory confirmatory testing performed? Please indicate for outbreak and non-outbreak periods, respectively

Non-outbreak (routine) percentage in a year	100
During outbreaks percentage per identified cluster	100

16. In the last two years, were the positive cases of arboviruses confirmed by a national reference laboratory?

Yes, for all arboviral infections. Please specify them:

All the positive Dengue virus, chikungunya and WNV cases were confirmed by the National Reference Laboratory in the last two years.

16b. If your country does not have capacity to type and serotype arboviruses, do you send samples for typing to other countries?

No

17. Overall, what arboviral testing capacity(ies) is(are) available in your country? Please check all applicable boxes

	Antigen testing	IgM antibody testing	IgG antibody testing	Neutralizing antibody testing	Virus isolation	RT-PCR or other nucleic acid amplification test	Viral gene/genome Sequencing
Chikungunya		Yes	Yes			Yes	
Dengue		Yes	Yes			Yes	
Yellow fever		Yes	Yes			Yes	
Zika		Yes	Yes			Yes	
Other		Yes	Yes	Yes	Yes	Yes	Yes

18. Which additional resources are most needed for your country to perform adequate testing for arboviral diseases? Please describe what would be needed for each checked resource in the adjacent comment field

Additional training of personnel: Bioinformatic training

19. Do you perform virological surveillance on humans, ie, tracking of prevailing genotypes/serotypes? Please select all that apply

No: NA

19b. Which samples do you use for virological surveillance?

19c. For which viruses do you perform virological surveillance? (check all that apply)

19d. Does your country provide regular training sessions for healthcare workers on arboviruses virological surveillance?

20. What do the arboviral diagnostic laboratory staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to laboratory testing for arboviral infections?

Turkey is experienced in arboviral diseases diagnosis as Crimean Congo Hemorrhagic Fever is endemic in the country. The Reference Laboratory has very experienced staff and has a very high diagnostic capacity.

## Section IV: Management of arboviral disease cases

21. Does your country have clinical guidelines for healthcare workers on diagnosis and clinical management of cases and severe cases of *Aedes*-borne arboviral diseases?

No

21b. Please upload the clinical guideline(s) for arboviral disease management

**22. Are severe cases of arboviral diseases managed in a special area (part of the hospital, isolation beds)?**

No. If so, where are patients with severe disease treated? Please specify in comments field.

Severe cases of arboviral diseases are hospitalised in relevant services of hospitals (Infectious diseases services, intensive care services etc.)

**23. How many hospital beds are available per 100,000 population?**

**24. Does your country provide regular training sessions for healthcare workers on clinical diagnosis and management of *Aedes*-borne arboviral diseases?**

No

**25. What do the arboviral disease surveillance/clinical staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to case management?**

## **Section V: Routine vector surveillance and control**

**26. Is there a disease programme, agency, or service in charge of arbovirus vector surveillance in your country?**

No

**27. Which institution/department is in charge of reporting entomologic surveillance data to the national ministry of health/health department? (Check all that apply)**

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State/provincial health agencies	Not selected
Other national agency	Not selected
City/country health departments	Not selected
Local mosquito control districts or similar organisations	Not selected
Universities or academic institutions	Not selected
Private companies	Not selected
Other	There is no legal obligation to report to MoH besides there is no routine entomological surveillance in the country.

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**28. For the last 2 years, did your country conduct entomologic surveillance for arboviral infections in mosquito vectors?**

No

**28b. Please upload the most recent national vector surveillance report**

**28c. Did the entomologic surveillance entail country wide programmes or was it restricted to specific locations?**

**28d. How many sentinel surveillance sites do you have?**

**28e. How often was the surveillance conducted? Please choose one of the following:**

**29. Do you conduct adult mosquito surveillance?**

No

**30. Do you conduct larval/pupal mosquito surveillance?**

No

**31. Are trapped mosquitoes identified to species?**

No



**32. Does your country either calculate minimum infection rates (MIR) for any *Aedes*-borne arboviruses with your mosquito data or receive such data from other agencies? Please choose only one of the following:**

No

**33. Which laboratories performed testing for arboviruses on mosquito pools collected in your country in the last two years? (check all that apply)**

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National public health laboratory	Not selected
State/provincial/regional public health laboratory	Not selected
Local health department laboratory	Not selected
University or academic institution	Not selected
Local MCD (if different from county health dep't)	Not selected
Mosquito surveillance done, but no testing done on mosquito pools	Not selected
Not applicable (no mosquito surveillance done)	Yes

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**34. Is there a record of *Aedes aegypti* or *Aedes albopictus* being found in your country in the past 5 years? Please choose only one of the following**

Yes, both *Aedes aegypti* and *Aedes albopictus*

**34b. Please describe the potential public health threat from *Aedes aegypti* in your country**

*Aedes aegypti* populations are stable in select areas and pose a significant threat

**34c. Please describe the potential public health threat from *Aedes albopictus* in your country**

*Aedes albopictus* populations are stable in select areas and pose a significant threat

**35. Over the past two years, did your country use any of the following vector control methods in local jurisdictions (either using government staff and resources, or subcontracting to a different entity to do so)? Please select all that apply**

Adulticiding (insecticide application against adult mosquitoes)	Yes
Larviciding	Yes
Insect growth regulators (eg , pyriproxyfen)	Yes
Wolbachia method	Not selected
Sterile insect release	Not selected
None	Not selected
Other	Monomolecular Film

**35b. Would your country have conducted or financially supported adulticiding/larviciding or source reduction activities in the last two years if sufficient funding were available?**

**35c. Which adulticides and/or larvicides (brand and product name) were used?**

Cyfluthrin Cypermethrin B.t.i B.t.i+BS Spinosad S-Methoprene Monomolecular Film

**36. Does your country provide regular training sessions for staff in charge of vector control and vector surveillance?**

Yes, only for vector control

**37. For the last two years, did your country have a plan for mosquito-borne disease control that includes a threshold (eg, level of vector mosquito abundance or minimum infection rate) that would result in a recommendation for mosquito adulticiding/other mosquito reduction measures?)**

No – do not have a formal plan that includes adulticiding to control mosquito-borne diseases

**37b. Which indicator(s) is(are) used as threshold(s)?**

**38. Overall, are data on any of the following arboviral outbreak risk factors routinely collected and analysed? (Select all that apply)**

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House Index	Not selected
Breteau Index	Not selected
Container Index	Not selected
Temperatures	Not selected
Rainfall	Not selected
Migration of a non-immune population	Not selected
None	Yes

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**39. Is there a surveillance system in place for monitoring *Aedes* resistance to the insecticide(s) used?**

No

**40. What do the vector surveillance staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to vector surveillance and control in the country?**

There is no vector surveillance, should be established.

## **Section VI: Animal surveillance**

**41. During the last 2 years, did your country conduct national epidemiological surveillance for arboviral disease in animals (eg, epizootic surveillance for yellow fever in endemic areas)?**

No

**41b. How often was the animal surveillance conducted?**

**41c. What type of surveillance was conducted in animals?**

**41d. Please upload a report on the animal surveillance**

**42. Does your country (or local jurisdictions within the country) perform sentinel animal surveillance or epizootic surveillance, eg, for yellow fever in nonhuman primates in endemic regions?**

No

42b. For which viruses is sentinel surveillance conducted and in which animal species?

42c. Please upload the most recent report(s) on sentinel animal surveillance

## Section VII: Community sensitization and participation

43. Does your country have a community outreach program that also covers arboviral diseases?

No

43b. What entity(ies) is(are) in charge of the outreach program in your country?

43c. What is the geographical coverage of the outreach program in your country?

43d. Is the community outreach/social mobilization program sufficiently funded to cover staff time, prevention and outreach activities as needed?

43e. Which resources would help ensure adequate capacity?

44. Did your national arboviral disease program issue notifications to the public about local transmission risk and/or possible vector-control activities (eg larviciding, adulticiding, community mobilization and participation, etc) as a prevention message for arboviral diseases within last 2 years? (Check all that apply)

	During outbreaks	During non-outbreak periods
Issued by national public health agency	Yes	Not selected
Issued by state/local health agencies	Not selected	Not selected
No risk in the past two years	Not selected	Not selected
No notifications even though risk was present	Not selected	Not selected

**44b. Which means does your program use for community sensitization, mobilisation and acceptance of interventions in your country? (Check all that apply)**

Press releases to electronic and printed media	Not selected
Public service announcements on television or radio	Not selected
Passive distribution of informational brochures	Not selected
Active distribution of informational brochures	Yes
Town, community, or neighborhood meetings	Not selected
Posting information on the home page of your agency's website	Yes
Social media outlets (Facebook, Twitter, etc)	Not selected
Door-to-door outreach in selected locations	Yes
Participation in community clean-ups	Not selected
Modification of messages for all local languages	Not selected

**45. Does your country provide regular training sessions for staff in charge of community sensitization, mobilisation and acceptance of interventions dedicated to control arboviral diseases?**

No

**46. What do the community outreach staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to community participation**

## **Section VIII: Preparedness for arboviral outbreaks/epidemics**

**47. Is there either a surveillance and outbreak response committee in your country, or a steering committee for that purpose?**

No

**48. Does your country have a contingency plan to organize healthcare services during an outbreak (including outbreaks of arboviral diseases)?**

No

**48b. Please upload the contingency plan**

**49. Are there defined or established criteria for declaring an outbreak of arboviral disease outbreak in your country?**

No

**50. Do you have established collaborations with national/regional research institutions / international agencies that are planned to be activated in case of arboviral outbreak?**

Yes. If so, please specify institutions/agencies in the comments field:

Turkish Zoonotic Diseases National Committee has been established by a protocol signed by MoH and Ministry of Agriculture and Forestry. This committee consists of representatives from all relevant sectors/institutions. 13 working groups were established under the committee. And one of these working groups covers also the concerned arboviral diseases.

**51. What vector control interventions are deployed in case of an emergency?**

Only WNV local cases are reported in Turkey. In case of local WNV transmission vector control interventions are deployed. Public education are conducted for personal protection and deployment of vector breeding places. Adulticiding and larviciding methods are deployed in the area.

**52. For the last 2 years, which of the following government levels had an emergency fund or a specified emergency funding mechanism for arbovirus outbreak response?**

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National level	Yes
State/local level	Yes
None	Not selected

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**53. Does your country provide regular training sessions for staff/committee in charge of preparedness for arboviral outbreaks/epidemics?**

No

**54. What do the arboviral disease surveillance staff perceive as factors contributing to the a) success and b) barriers/challenges with respect to preparedness of arboviral diseases epidemics in your country?**

Risk Assessment Meetings are organized within MoH in case of any arboviral disease epidemics in the world and also in case of local transmission of WNV. The situation is assessed, control methods are discussed and experts from MoH visit the province and support the local authorities in controlling the situation and perform field study.

## **Section IX: Arboviral disease surveillance data**

**55. Please provide total number of cases and deaths for the following arboviral diseases from 2015 to 2020 (if available).**

	Dengue	Chikungunya	Yellow fever	Zika
2015 Cases	5	0	0	0
2015 Deaths	0	0	0	0
2016 Cases	3	1	0	0
2016 Deaths	0	0	0	0
2017 Cases	17	0	0	4
2017 Deaths	0	0	0	0
2018 Cases	10	1	0	1
2018 Deaths	0	0	0	0
2019 Cases	4	2	0	0
2019 Deaths	0	0	0	0
2020 Cases	1	0	0	0
2020 Deaths	0	0	0	0

(NA = Not Available)

**55b. Were cases of other mosquito-borne arboviruses, not listed in the previous question, reported in your country from 2015-2020?**

Yes

**55c. Please select any of the following other mosquito-borne viruses that have been reported in your country from 2015-2020**

West Nile	Yes
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**55d. Please provide total number of cases and deaths due to each of the following other arboviruses that you selected from 2015-2020**

	West Nile
2015 Cases	0
2015 Deaths	0
2016 Cases	2
2016 Deaths	1
2017 Cases	7
2017 Deaths	1
2018 Cases	26
2018 Deaths	3
2019 Cases	10
2019 Deaths	0
2020 Cases	0
2020 Deaths	0

**56. Please provide the number of cases of locally acquired, mosquito-borne *Aedes*-borne arbovirus infections by case classification for 2020 and, if not available, for 2019**

	Suspect cases	Probable cases	Confirmed cases	Deaths
Chikungunya	0	0	0	0
Dengue	0	0	0	0
Yellow Fever	0	0	0	0
Zika	0	0	0	0

**57. Do arbovirus surveillance staff have any perceived reasons for increasing trends in arboviral disease incidence? Check all answers that apply.**



Climate change (as evidenced by changes in meteorological data)	Not selected
Construction activities	Not selected
Population migration (within the country or between countries)	Not selected
Increased availability of peri-domestic water-bearing containers suitable for mosquito egg deposition	Not selected
Other	There is no increase in arboviral disease incidence

## Section X: Surveillance staffing

**58. During 2019 (prior to the Covid-19 pandemic), indicate below the number of arbovirus surveillance staff at the national level.**

**59. Indicate below how many total staff persons are needed at the national level in your country to achieve full epidemiology and laboratory capacity\* to conduct arbovirus surveillance.**

**60. Optional comments to explain responses to questions 58 and 59 above**

There is no specific staff for arboviral diseases surveillance or treatment, infact there is no need. Surveillance, diagnosis and treating services of these diseases are part of general health services.

**61. The national health authority/ministry of health has access to expertise in clinical management of arboviruses (Check all that apply)**

Within the ministry of health (eg, public health medical officers, clinicians in state hospitals)	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Yes
Private hospitals	Not selected
Does not have access	Not selected

**62. The national health authority/ministry of health has access to expertise in arbovirus epidemiology (Check all that apply)**

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Within the ministry of health	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Yes
Does not have access	Not selected

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**63. The national health authority/ministry of health has access to expertise in arbovirus laboratory diagnosis (Check all that apply)**

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Within the ministry of health (e.g., public health laboratory scientists)	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Not selected
Does not have access	Not selected

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**64. The national health authority/ministry of health has access to expertise in entomology (Check all that apply)**

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Within the ministry of health	Yes
Through other national agency with regulatory authority	Not selected
Through academic institution(s)	Yes
Does not have access	Not selected

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**65. Optional comments to explain responses to any of Questions 61-64**

## **Section XI: Survey conclusion**

**66. If you have any further comments to add regarding arbovirus surveillance and control in your country, including whether arboviruses other than *Aedes*-borne arboviruses are of higher priority, please do so in the text field below**

There is no local transmission of *Aedes*-borne arboviruses in Turkey only a few imported cases are reported. But as the vectors are established in some parts of the country, there is a risk of local transmission due to imported cases in

these areas. That's why action plans for these diseases had been prepared in coordination of Zoonotic and Vector-borne Diseases Department. Only WNV, as mosquito borne disease, local transmission occur occasionally. Although not the purpose of this survey, CCHF is the only endemic arbovirus disease in Turkey.